Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 – 11 (Canceled)

12. (Previously presented) A control system comprising:

a plurality of control circuits, each control circuit comprising the following elements:

an input receiving connection for receiving an input signal;

an oscillation generation circuit for generating at a first output terminal an oscillation output signal having an amplitude, phase and a frequency;

a first spike generation circuit in communication with the oscillation generation circuit for generating a first spike signal when the oscillation output signal crosses a first threshold value, the first spike signal being provided at the first output terminal;

a second spike generation circuit in communication with the oscillation generation circuit for generating a second spike signal when the oscillation output signal crosses a second threshold value, the second spike signal being provided at the first output terminal;

wherein the oscillation output signal, the first spike signal and the second spike signal collectively form a composite output signal which is capable of controlling an actuating element, and wherein characteristic information of the actuating element is provided as part of the input signal to the control circuit to thereby adjust one of the amplitude, phase and frequency of the oscillation output signal.

13. (Previously presented) The control system of claim 12, wherein a phase characteristic of the composite output signal of a first control circuit is maintained at a predetermined level relative to a phase characteristic of the composite output signal of a second control circuit.

14. (Previously presented) The control system of claim 12, further comprising at least one coupling element for coupling adjacent control circuits.

15. (Previously presented) The control system of claim 14, wherein the coupling element comprises a variable impedance element.

16. (Previously presented) The control system of claim 12, further comprising a plurality of coupling elements, each coupling element connected to two adjacent control circuits to thereby provide coupling between the two adjacent control circuits.

17. (Previously presented) The control system of claim 16, wherein the impedance of the coupling elements is altered to thereby modify synchronization between coupled control circuits.

18. (Previously presented) The control system of claim 12, further comprising a command input for controlling the coupling between control circuits.

19. (Previously presented) The control system of claim 12, further comprising a first cluster of control circuits and a second cluster of control circuits, the first cluster of control circuits being characterized by a higher degree of coupling between control circuits of the first cluster relative to a lower degree of coupling between control circuits of the first cluster and control circuits of the second cluster.

20. (Previously presented) A control system comprising:

a plurality of control circuits, each control circuit comprising the following elements:

an input receiving connection for receiving an input signal;

an oscillation generation circuit for generating at a first output terminal and a second output terminal an oscillation output signal having an amplitude, phase and a frequency;

a first spike generation circuit in communication with the oscillation generation circuit for generating a first spike signal when the oscillation output signal crosses a first threshold value, the first spike signal being provided at the first output terminal and the second output terminal;

a second spike generation circuit in communication with the oscillation generation circuit for generating a second spike signal when the oscillation output signal crosses a second threshold value, the second spike signal being provided at the first output terminal;

wherein the oscillation output signal, the first spike signal and the second spike signal collectively form a first composite output signal at the first output terminal, and the oscillation output signal and the first spike signal collectively form a second composite output signal at the second output terminal, such that at least one of the composite output signals is capable of controlling an actuating element, and wherein characteristic information of the actuating element is provided as part of the input signal to the control circuit to thereby adjust one of the amplitude, phase and frequency of the oscillation output signal.

21. (Previously presented) The control system of claim 20, wherein a phase characteristic of the composite output signal of a first control circuit is maintained at a predetermined level relative to a phase characteristic of the composite output signal of a second control circuit.

22. (Previously presented) The control system of claim 20, further comprising at least one coupling element for coupling adjacent control circuits.

23. (Previously presented) The control system of claim 22, wherein the coupling element comprises a variable impedance element.

24. (Previously presented) The control system of claim 20, further comprising a plurality of coupling elements, each coupling element connected to two adjacent control circuits to thereby provide coupling between the two adjacent control circuits.

25. (Previously presented) The control system of claim 24, wherein the impedance of the coupling elements is altered to thereby modify synchronization between coupled control circuits.

26. (Previously presented) The control system of claim 20, further comprising a command input for controlling the coupling between control circuits.

27. (Previously presented) The control system of claim 20, further comprising a first cluster of control circuits and a second cluster of control circuits, the first cluster of control circuits being characterized by a higher degree of coupling between control circuits of the first cluster relative to a lower degree of coupling between control circuits of the first cluster and control circuits of the second cluster.

28. (Previously presented) A robotic control system comprising:

a plurality of control circuits, each control circuit comprising the following elements:

an input receiving connection for receiving an input signal;

an oscillation generation circuit for generating at a first output terminal an oscillation output signal having an amplitude, phase and a frequency;

a first spike generation circuit in communication with the oscillation generation circuit for generating a first spike signal when the oscillation output signal crosses a first threshold value, the first spike signal being provided at the first output terminal;

a second spike generation circuit in communication with the oscillation generation circuit for generating a second spike signal when the oscillation output signal crosses a second threshold value, the second spike signal being provided at the first output terminal;

wherein the oscillation output signal, the first spike signal and the second spike signal collectively form a composite output signal which is capable of controlling an actuating element, and wherein a sensor is used to obtain characteristic information of the actuating element such that the characteristic information is provided as part of the input signal to the control circuit to thereby adjust one of the amplitude, phase and frequency of the oscillation output signal; and

further wherein the input signal is used to synchronize controlled movement of the actuation elements.

29. (Previously presented) A method of controlling a system comprising the following steps:

using a plurality of control circuits, each control circuit performing the following steps:

receiving an input signal at an input receiving connection;

generating at a first output terminal an oscillation output signal having an amplitude, phase and a frequency;

generating a first spike signal when the oscillation output signal crosses a first threshold value, the first spike signal being provided at the first output terminal;

generating a second spike signal when the oscillation output signal crosses a second threshold value, the second spike signal being provided at the first output terminal;

wherein the oscillation output signal, the first spike signal and the second spike signal collectively form a composite output signal which is capable of controlling an actuating element, and further comprising the step of obtaining characteristic information of the actuating element which is provided as part of the input signal to the control circuit to thereby adjust one of the amplitude, phase and frequency of the oscillation output signal.

30. (Previously presented) The method of claim 29, wherein a phase characteristic of the composite output signal of a first control circuit is maintained at a predetermined level relative to a phase characteristic of the composite output signal of a second control circuit.

31. (Previously presented) The method of claim 29, further comprising the step of using at least one coupling element for coupling adjacent control circuits.

32. (Previously presented) The method of claim 31, wherein the coupling element comprises a variable impedance element.

33. (Previously presented) The method of claim 29, further comprising the step of using a plurality of coupling elements, each coupling element connected to two adjacent control circuits to thereby provide coupling between the two adjacent control circuits.

34. (Previously presented) The method of claim 33, further comprising the step of altering the impedance to thereby modify synchronization between coupled control circuits.

35. (Previously presented) The method of claim 29, further comprising the step of applying a command input for controlling the coupling between control circuits.

36. (Previously presented) The method of claim 29, further comprising the step of creating a first cluster of control circuits and a second cluster of control circuits, the first cluster of control circuits being characterized by a higher degree of coupling between control circuits of the first cluster relative to a lower degree of coupling between control circuits of the first cluster and control circuits of the second cluster.

37. (Previously presented) A method of controlling a system comprising the following steps:

using a plurality of control circuits, each control circuit performing the following steps:

receiving an input signal at an input receiving connection;

generating at a first output terminal and at a second output terminal an oscillation output signal having an amplitude, phase and a frequency;

generating a first spike signal when the oscillation output signal crosses a first threshold value, the first spike signal being provided at the first output terminal and the second output terminal;

generating a second spike signal when the oscillation output signal crosses a second threshold value, the second spike signal being provided at the first output terminal;

wherein the oscillation output signal, the first spike signal and the second spike signal collectively form a composite output signal at the first output terminal, and the oscillation output signal and the first spike signal collectively form a second composite output signal at the second output terminal, such that at least one of the composite output signals is capable of controlling an actuating element, and further comprising the step of obtaining characteristic

information of the actuating element which is provided as part of the input signal to the control circuit to thereby adjust one of the amplitude, phase and frequency of the oscillation output signal.

38. (Previously presented) The method of claim 37, wherein a phase characteristic of the composite output signal of a first control circuit is maintained at a predetermined level relative to a phase characteristic of the composite output signal of a second control circuit.

39. (Previously presented) The method of claim 37, further comprising the step of using at least one coupling element for coupling adjacent control circuits.

40. (Previously presented) The method of claim 39, wherein the coupling element comprises a variable impedance element.

41. (Previously presented) The method of claim 39, further comprising the step of using a plurality of coupling elements, each coupling element connected to two adjacent control circuits to thereby provide coupling between the two adjacent control circuits.

42. (Previously presented) The method of claim 41, further comprising the step of altering the impedance to thereby modify synchronization between coupled control circuits.

43. (Previously presented) The method of claim 37, further comprising the step of applying a command input for controlling the coupling between control circuits.

44. (Previously presented) The method of claim 37, further comprising the step of creating a first cluster of control circuits and a second cluster of control circuits, the first cluster of control circuits being characterized by a higher degree of coupling between control circuits of the first

cluster relative to a lower degree of coupling between control circuits of the first cluster and control circuits of the second cluster.

45. (Previously presented) The control system of claim 12, wherein the first spike generation circuit generates the first spike signal at a peak of the oscillation output signal.

46. (Previously presented) The control system of claim 12, wherein the first spike signal and the second spike signal have different amplitudes.